Salmon River Water Monitoring 2004

Salmon River Restoration Council

Salmon River Water Monitoring Work Group

Salmon River Restoration Council

U.S. Forest Service (KNF and Six Rivers)

CA Department of Fish and Game

Karuk Tribe

Forks of Salmon and Junction Elementary Schools

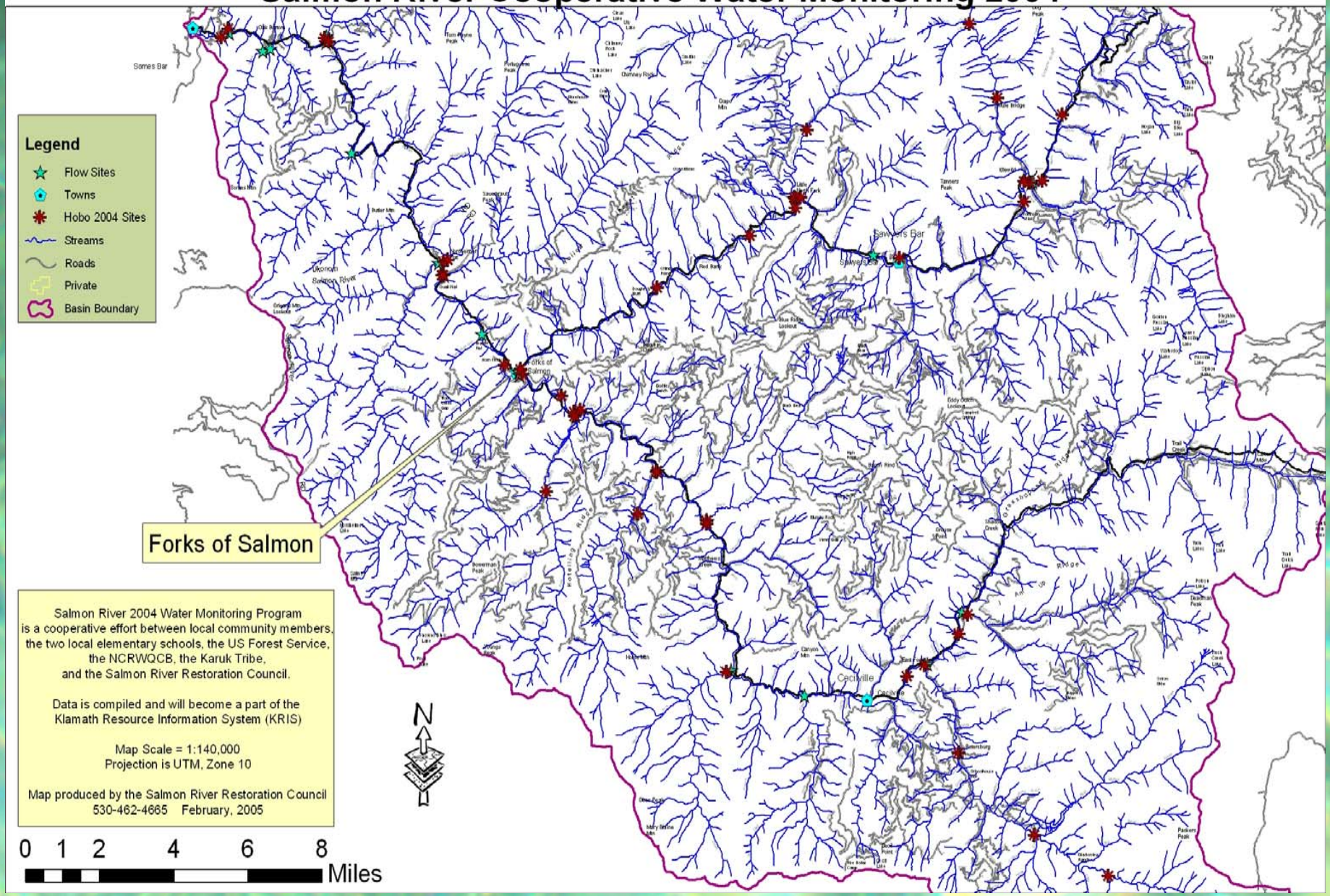
North Coast Regional Water Quality Control Board

U.S. Fish and Wildlife Service

Monitoring Goals

- Establishing baseline data
- Supporting the state's Total Daily Maximum Load process
- To correlate temperatures with fish behavior
- Identify fisheries refugia conditions
- To identify opportunities to improve habitat
- To involve community members the monitoring process, to promote ownership of the watershed

Salmon River Cooperative Water Monitoring 2004



Cooperative Temperature Monitoring

- The SRRC and Cooperators maintain approximately 50 hobo temps in the Salmon River and its tributaries each year
- Data is processed by the SRRC and placed into KRIS for distribution

Year	SRRC	USFS	River Schools	Karuk Tribe
1996	6		17	
1997	17		11	
1998	33	5	1	
1999	33	14	9	
2000	37	12	9	
2001	20	9	7	
2002	42	9	5	2
2003	37	10	3	6
2004	35	9	3	1

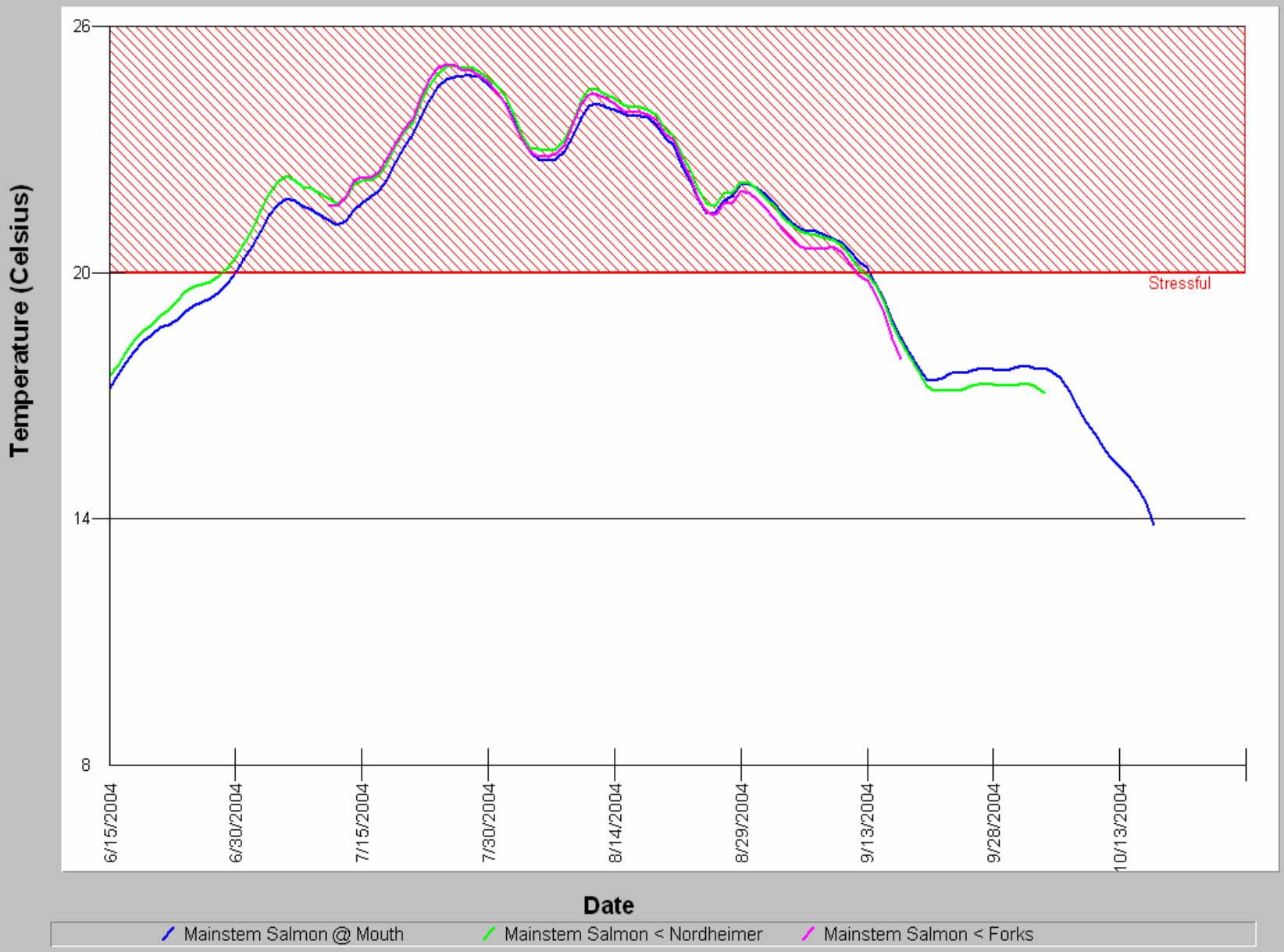
Monitoring Temperature

Temperature Impairment

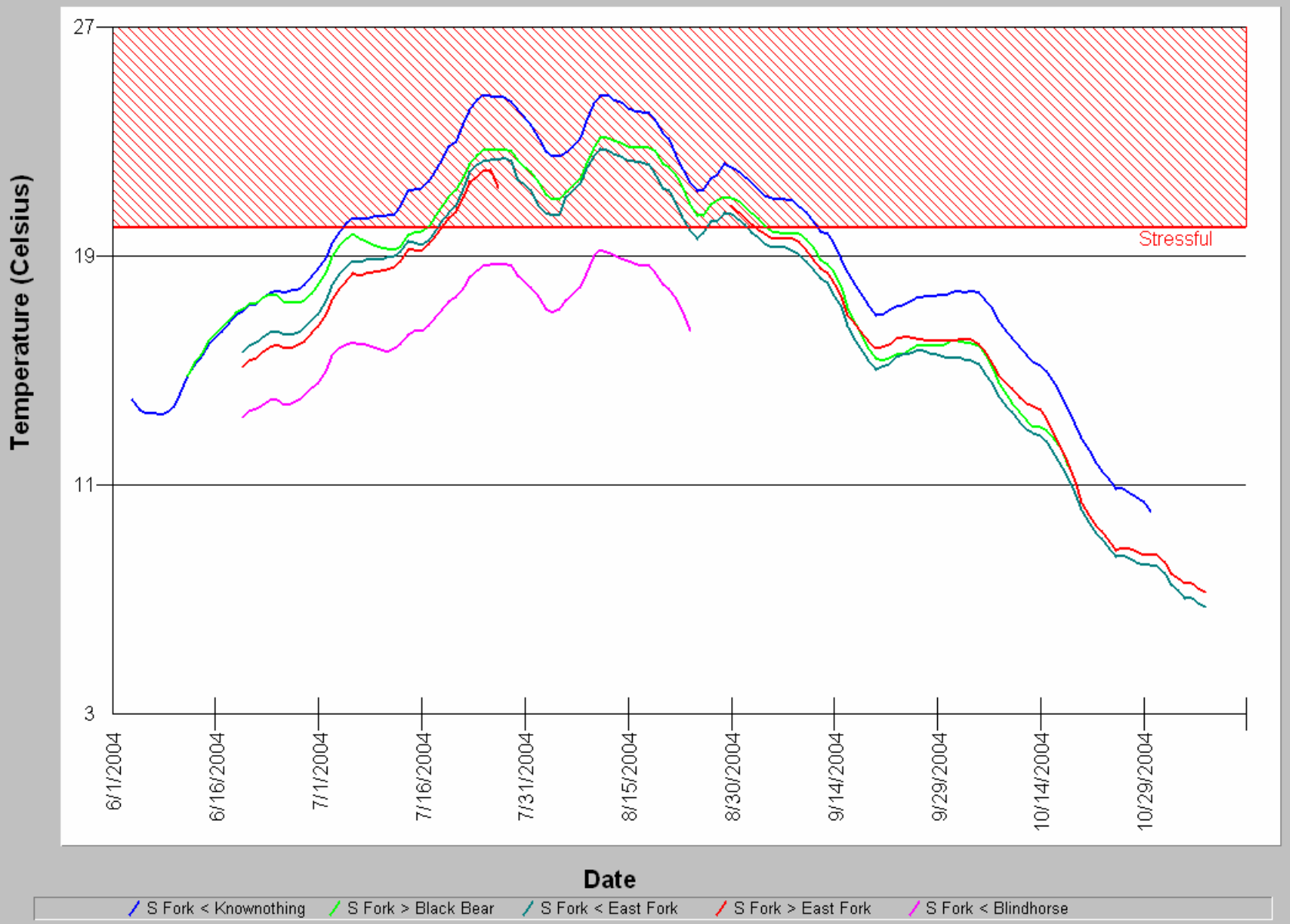
- The Salmon River is the largest cold water contributor to the Klamath River
- The Salmon River is listed for Temperature Impairment under the TMDL
- The Klamath River Fisheries Task Force has identified high water temperatures and excessive sediment production as the key limiting factors for the anadromous fisheries resource in the Salmon River subbasin (Klamath River Basin Fisheries Restoration Plan, 1991; Salmon River Subbasin Restoration Strategy, 2002)
- Temperature monitoring data shows temperatures consistently above the stressful level for Salmonids during the summer months


Floating Weekly Maximum Water Temp Knownothing Creek 1999-2004
Temperature (Celsius)
22
19
16
13
10
Stressful
06/15
06/30
07/15
07/30
08/14
08/29
09/13
Date
1999
2000
2001
2002
2003
2004

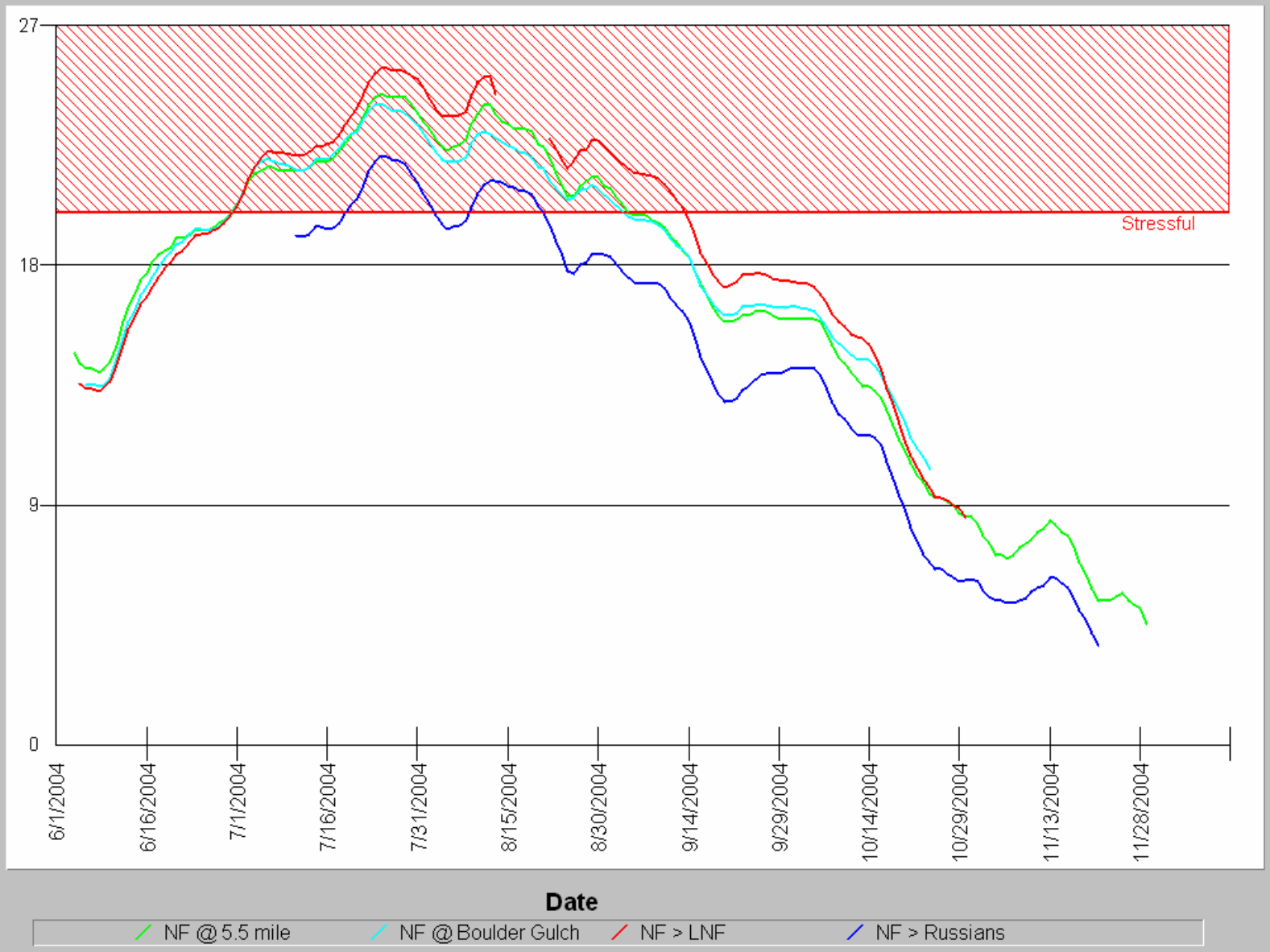
Floating Weekly Maximum Water Temp Mainstem Salmon Longitudinal 2004



Floating Weekly Max Water Temp SF Salmon Longitudinal 2004



Floating Weekly Max Water Temp NF Salmon Longitudinal 2004



Thermal Refugia Assessment

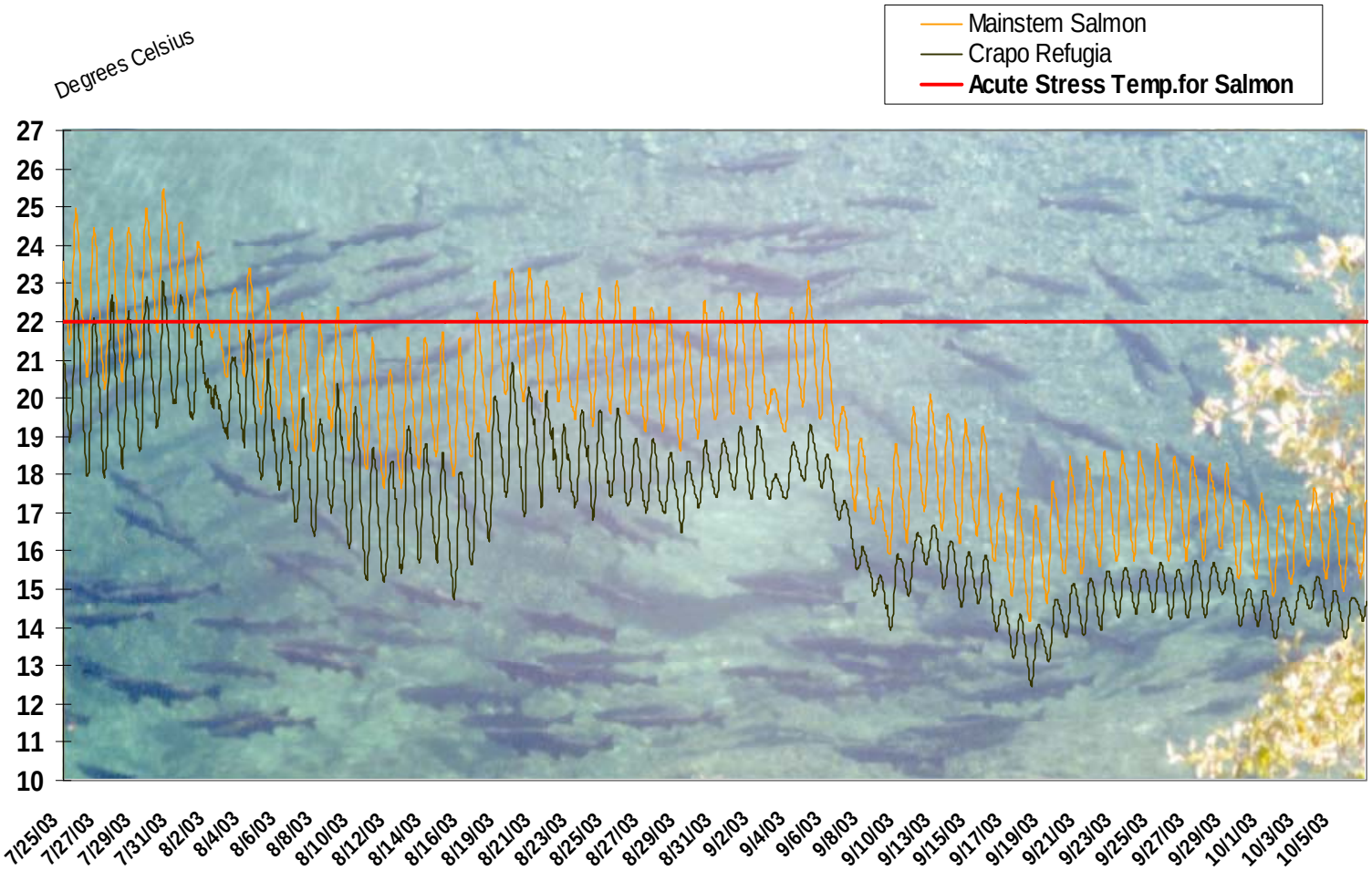
Purpose

Locate, inventory and characterize all thermal refugia sites in the Salmon River Mainstem, South Fork and North Fork.

Objectives

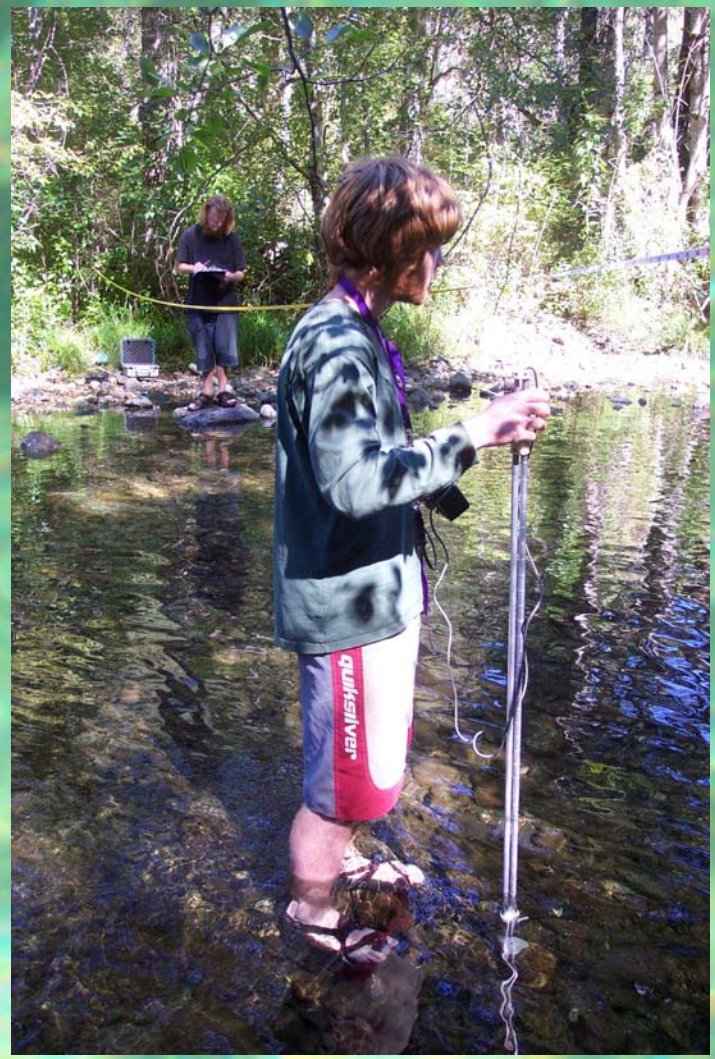
- Determine life stage and species usage at SR thermal refugia site
- Establish baseline relationship between Mainstem Water Temperature and Fish Usage at primary sties on the Salmon River.
- Characterize habitat quality and complexity of each site
- Determine extent and area of refugia sites
- Develop ArcView GIS layer including refugia sites
- Determine stability and habitat control features of each site

Mainstem Salmon and Crapo Creek Cold Water Refugia Hole Temperatures

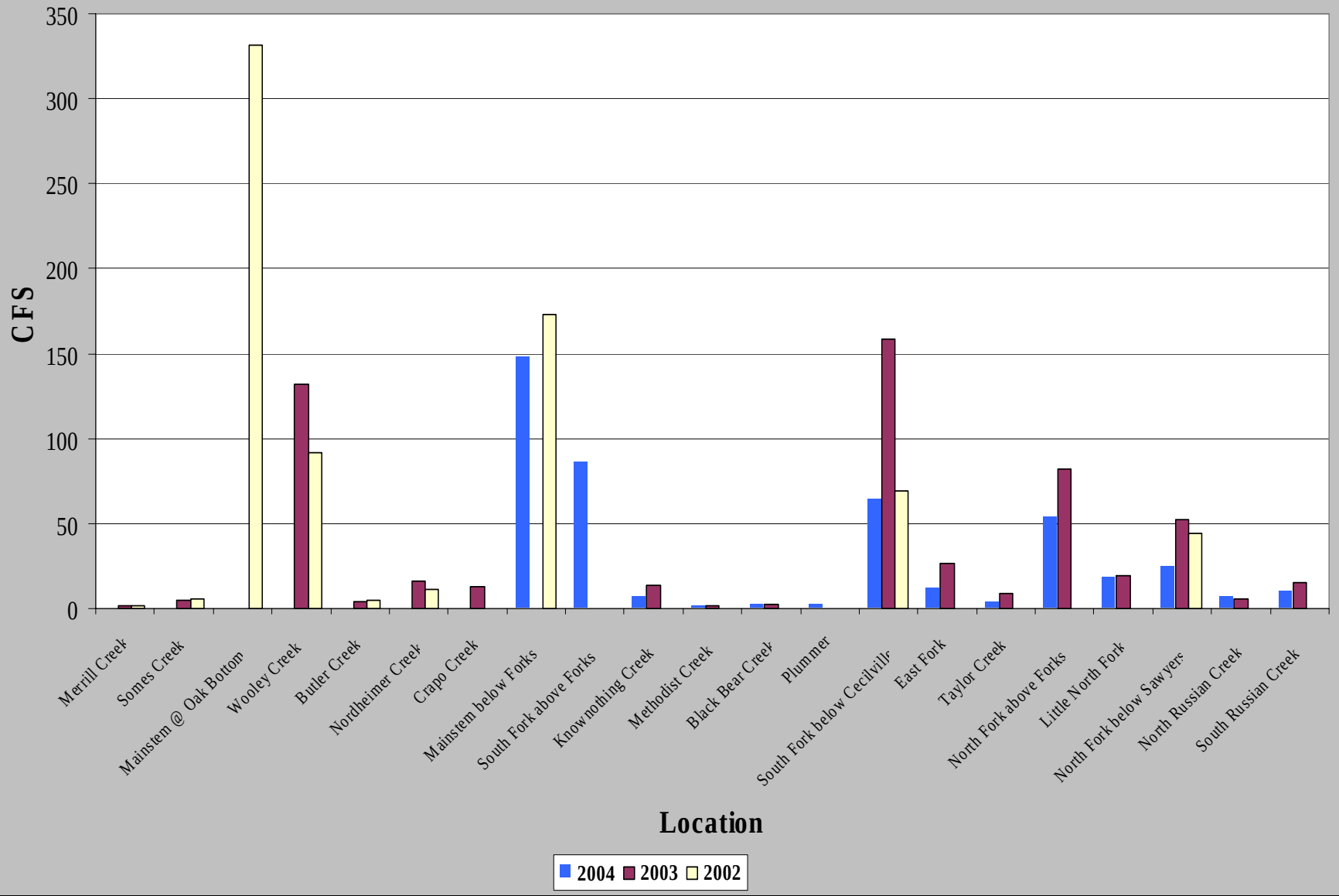


Cooperative Flow Monitoring

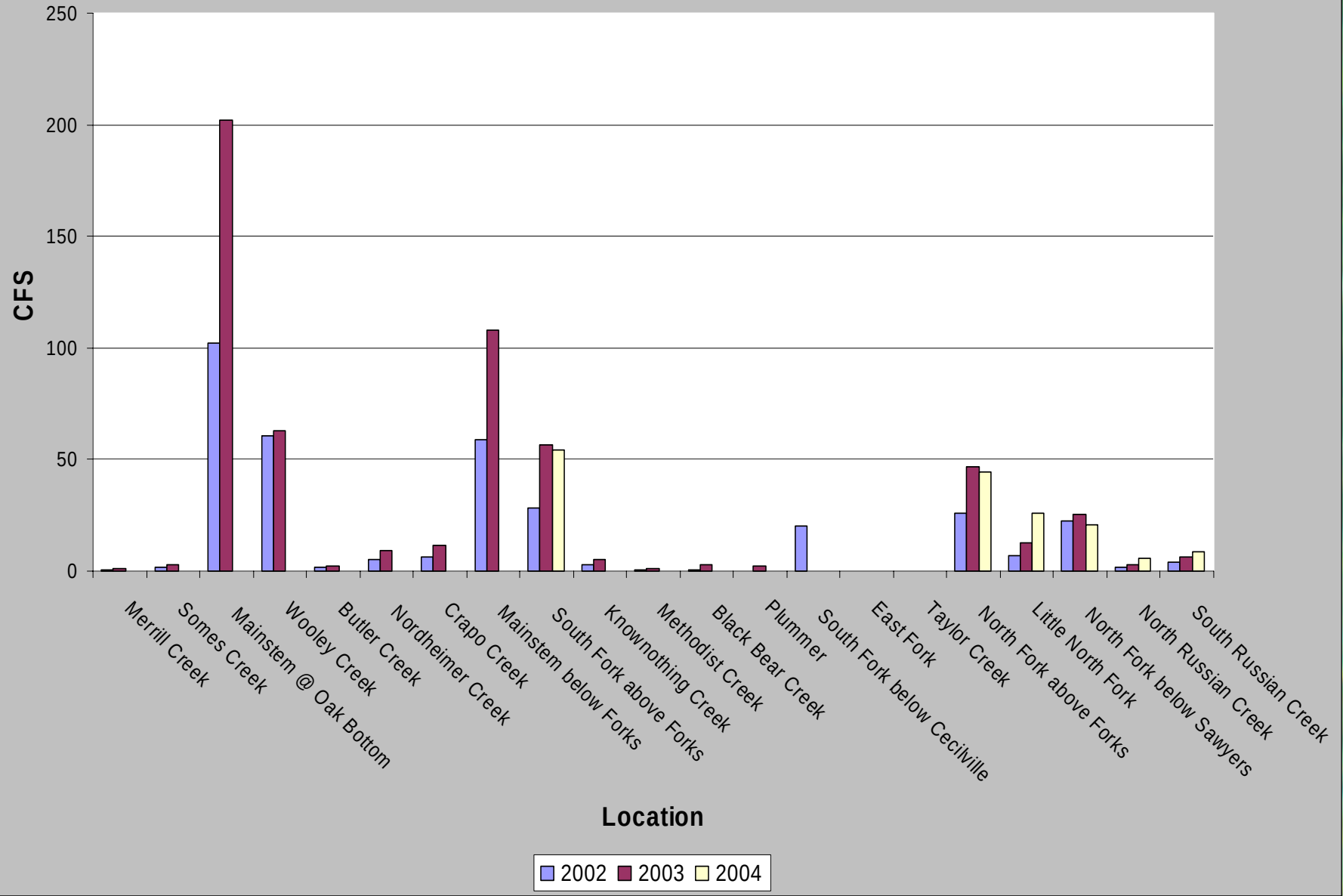
- The SRRC and Karuk Tribe monitor flow at approximately 20 sites on the Salmon River and its tributaries, once a month during the summer months



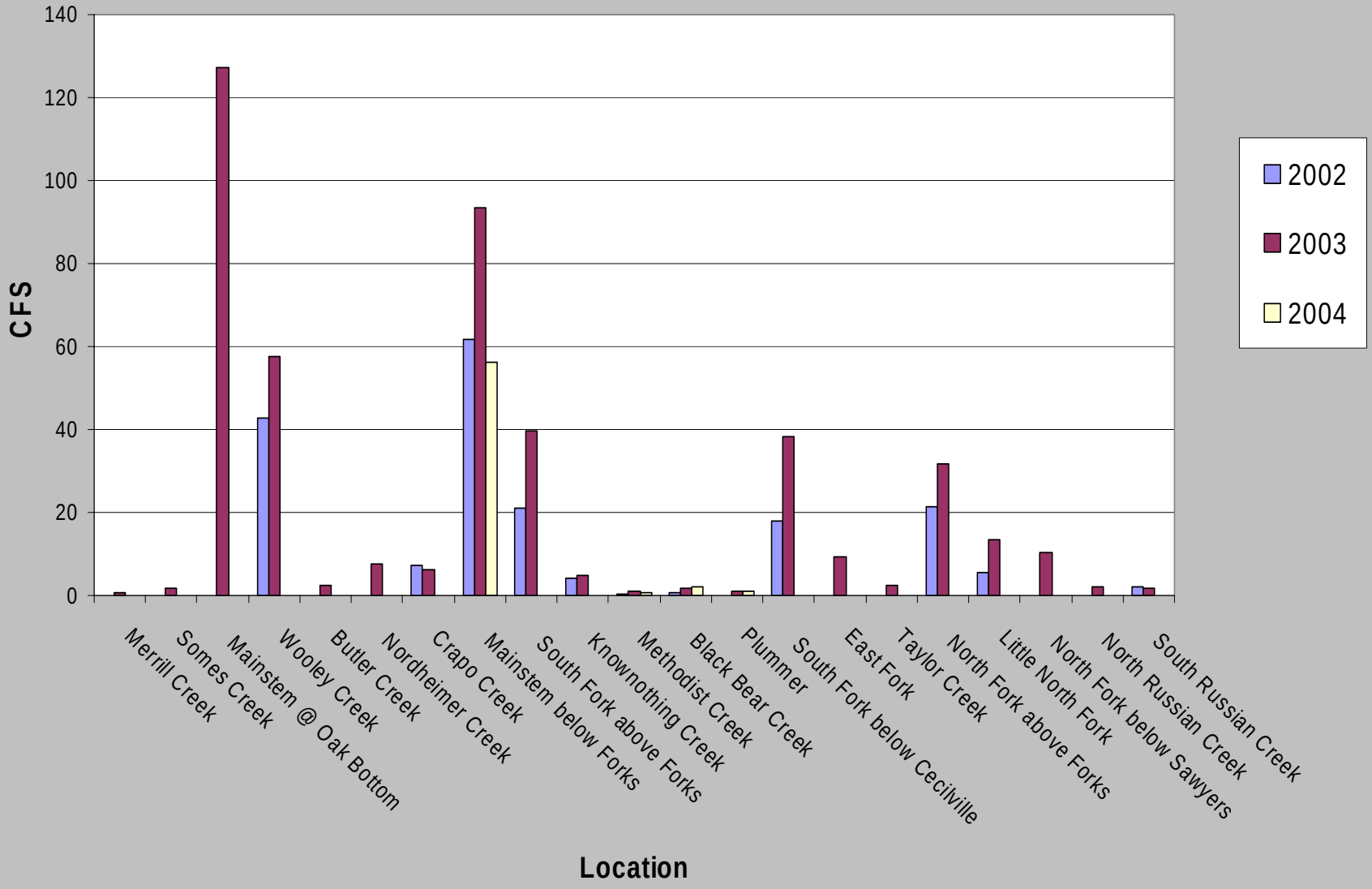
Salmon River Flows, July 2002, 2003, 2004



Salmon River Flows August 2002, 2003, 2004



Salmon River Flows September 2002, 2003, 2004



- **The Salmon River Monitoring Program provides data to the Klamath River Information System, State and Federal Agencies, Tribes, the TMDL process and others.**

- **The Salmon River Subbasin Restoration Strategy prescribes the development of a long range monitoring plan for the Salmon River.**

- **The Program provides baseline data for the Watershed which helps us to monitor changes in water quality over time and in specific drainages. With this information we can also assess the effectiveness of restoration projects and of land management activities**

- **When the Salmon River TMDL is published our water monitoring program will help to gauge the effectiveness of the directives in the TMDL as they are carried out**